Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-17 are pending in the application, with 1, 9 and 15 being the independent claims. Claims 1-3, 5, 7, 9, and 11-17 are sought to be amended. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Objection to the Specification

Paragraphs [0009], [0010], [0011] and [0012] of the specification have been objected to by the Examiner because the co-pending applications cited therein were not identified by the U.S. Patent Serial Number at the time of filing. Accordingly, each of these paragraphs has been amended to provide the newly-assigned U.S. Patent Serial Number provided by the U.S. Patent and Trademark Office. These amendments introduce no new matter and their entry is hereby respectfully requested.

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Objection to the Claims

The Examiner has objected to claims 1, 2, 4-15 and 17 because they include

acronyms (e.g., DOCSIS, SID, RTP, and IP/RTP). Claims 1-3, 5, 7, 9, 12-15 and 17

have been amended to address this issue. Additional minor amendments have also been

made to claims 1-3, 5, 7, 9, and 11-17. These amendments are merely intended to clarify

claim terms and are not intended to narrow the scope of the claims. These amendments

introduce no new matter and their entry is hereby respectfully requested.

Rejections under 35 U.S.C. § 103

The Examiner has rejected claims 1-14 under 35 U.S.C. § 103(a) as unpatentable

over U.S. Patent No. 6,438,123 to Chapman (hereinafter, "Chapman") in view of U.S.

Patent No. 6,032,197 to Birdwell *et al.* (hereinafter, "Birdwell"). Applicants have

carefully considered the Examiner's statements, but respectfully disagree.

Claim 1, as currently amended, recites:

> A method for dynamically mixing header suppression
> techniques transmitted over a Data Over Cable Service Interface
> Specification (DOCSIS) network, comprising the steps of:
>   (a) communicating a plurality of header suppression techniques
> and a unique index number assigned to each of the plurality of header
> suppression techniques to a cable modem termination system;
>   (b) receiving a plurality of data packets to be transmitted;
>   (c) identifying which of the received data packets have a header
> that should be suppressed;
>   (d) selecting a header suppression technique from the plurality
> of header suppression techniques for each of the identified data
> packets;
>   (e) appending a packet header element to each of the identified
> data packets, the packet header element containing the index number

assigned to the header suppression technique selected for each of the identified data packets; and

(f) suppressing a header of each of the identified data packets using the header suppression technique selected for each of the identified data packets.

Chapman does not teach or suggest each of the foregoing features. For example, Chapman does not teach or suggest "communicating a plurality of header suppression techniques and a unique index number assigned to each of the plurality of header suppression techniques to a cable modem termination system" as claimed. Chapman teaches the use of only a single header suppression technique: suppression of Ethernet, UDP and IP headers in a flow of RTP packets corresponding to a Voice over Internet Protocol (VoIP) phone call. *See* Chapman, col. 4, ll. 29-44. In Chapman, the suppressed headers associated with a particular flow of RTP packets is indexed and sent from a cable modem to a cable modem termination system (CMTS) during call setup so that this header information can later be used by the CMTS to expand RTP packets having suppressed headers. *See* Chapman, col. 4, ll. 60-68. This communication of indexed *header information* in accordance with a single header suppression technique as taught by Chapman is not the same as "communicating *a plurality of header suppression techniques* and a unique index number assigned to each of the plurality of header suppression techniques to a cable modem termination system," as recited in claim 1. (Emphasis added).

The above-described shortcomings of Chapman are not remedied by the teachings of Birdwell. For example, like Chapman, Birdwell does not teach or suggest "communicating a plurality of header suppression techniques and a unique

index number assigned to each of the plurality of header suppression techniques to a

cable modem termination system" as recited in claim 1.

Since Chapman and Birdwell, alone or in combination, do not teach or suggest

every feature of claim 1, they cannot render that claim obvious. Accordingly, the

Examiner's rejection of claim 1 is traversed and Applicants respectfully request that

the rejection be withdrawn. Furthermore, since each of claims 2-8 depend from claim

1 (and therefore include each and every feature of claim 1), Chapman and Birdwell ,

alone or in combination, do not teach or suggest every feature of each of those claims.

Therefore, Applicants also respectfully request that the Examiner's rejection of claims

2-8 be withdrawn in light of the remarks made above.

Claim 9, as currently amended, recites:

> A method for expanding data packet headers transmitted over a
> Data Over Cable Service Interface Specification (DOCSIS) network,
> comprising the steps of:
> (a) receiving a mixed protocol burst comprised of one or more
> data packets having headers suppressed in accordance with a selected
> one of a plurality of header suppression techniques;
> (b) identifying each data packet within the mixed protocol burst
> that has a suppressed header;
> (c) searching a lookup table to select a set of rules from a
> plurality of sets of rules for expanding a suppressed header of each of
> the data packets identified in step (b); and
> (d) expanding a suppressed header of each of the data packets
> identified in step (b) according to a set of rules selected in step (c).

Chapman does not teach or suggest each of the foregoing features. For example,

Chapman does not teach or suggest "searching a lookup table to select a set of rules

from a plurality of sets of rules for expanding a suppressed header of each of the data

packets identified in step (b)" as claimed. Chapman teaches a CMTS that receives a

flow of RTP packets having headers suppressed in accordance with a single header

suppression technique (i.e., suppression of Ethernet, UDP and IP headers in a flow of RTP packets corresponding to a VoIP phone call) and an index value; the index value is then used to access a memory location that stores the *actual suppressed header* associated with the particular RTP packet flow. *See* Chapman, col. 6, l. 63-col. 7, l. 6. This is not the same as "searching a lookup table to *select a set of rules from a plurality of sets of rules* for expanding a suppressed header of each of the data packets identified in step (b)" as recited in claim 9. (Emphasis added).

The above-described shortcomings of Chapman are not remedied by the teachings of Birdwell. For example, like Chapman, Birdwell does not teach or suggest "searching a lookup table to select a set of rules from a plurality of sets of rules for expanding a suppressed header of each of the data packets identified in step (b)" as recited in claim 9.

Since Chapman and Birdwell, alone or in combination, do not teach or suggest every feature of claim 9, they cannot render that claim obvious. Accordingly, the Examiner's rejection of claim 9 is traversed and Applicants respectfully request that the rejection be withdrawn. Furthermore, since each of claims 10-14 depend from claim 9 (and therefore include each and every feature of claim 9), Chapman and Birdwell, alone or in combination, do not teach or suggest every feature of each of those claims. Therefore, Applicants also respectfully request that the Examiner's rejection of claims 10-14 be withdrawn in light of the remarks made above.

Rejections under 35 U.S.C. § 102

The Examiner has rejected claims 15-17 under 35 U.S.C. § 102(e) as

anticipated by Chapman.   Applicants have carefully considered the Examiner's

statements, but respectfully disagree.

Claim 15, as currently amended, recites:

> A system for dynamically mixing header suppression
> techniques transmitted over a Data Over Cable Service Interface
> Specification (DOCSIS) network, comprising:
> one or more cable modems that suppress data packet headers by
> selectively using one of a plurality of header suppression techniques;
> and
> a cable modem termination system (CMTS) enabled to expand
> said data packets headers by using a set of expansion rules
> corresponding to said selected one of said plurality of header
> suppression techniques, wherein said one or more cable modems
> assigns a unique index numbers to each one of said plurality of header
> suppression techniques.

Chapman does not teach or suggest each of the foregoing features. For example,

Chapman does not teach or suggest "one or more cable modems that suppress data

packet headers by selectively using one of a plurality of header suppression

techniques." Chapman teaches the use of only a single header suppression technique:

suppression of Ethernet, UDP and IP headers in a flow of RTP packets corresponding

to a Voice over Internet Protocol (VoIP) phone call. *See* Chapman, col. 4, ll. 29-44.

Since Chapman does not teach or suggest every feature of claim 15, it cannot

anticipate that claim. Accordingly, the Examiner's rejection of claim 15 is traversed

and Applicants respectfully request that the rejection be withdrawn. Furthermore,

since each of claims 16 and 17 depend from claim 15 (and therefore include each and

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every feature of claim 15), Chapman does not teach or suggest every limitation of each of those claims. Therefore, Applicants also respectfully request that the Examiner's rejection of claims 16 and 17 be withdrawn in light of the remarks made above.

Other Matters

Paragraph [0016] of the specification has been amended to correct a typographical error therein.

For the preparation of formal drawings, informal drawing FIG. 22 was divided into two sheets of drawings, FIG. 22A and FIG. 22B. Consequently, the formal drawing sheets for FIGs. 22A and 22B are submitted herewith to replace pending informal drawing sheet for FIG. 22. Paragraphs [0050], [0242], [0248], [0250] and [0270] of the specification have been amended to account for the division of informal drawing FIG. 22 into formal drawing FIGs. 22A and 22B.

Each of the above-referenced changes is believed to be fully supported by the specification and is not believed to introduce new matter. Their entry is hereby respectfully requested.
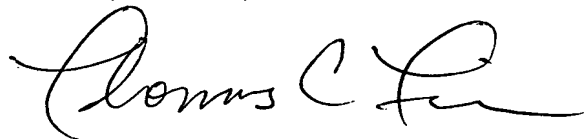
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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